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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,677	02/10/2004	Jonathan J. Oliver	PA3630US	3791
22830	7590			
CARR & FERRELL LLP				
2200 GENG ROAD				
PALO ALTO, CA 94303				
EXAMINER				
LEE, PHILIP C				
ART UNIT		PAPER NUMBER		
24-48				
MAIL DATE		DELIVERY MODE		
08/17/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/776,677

Applicant(s)

OLIVER ET AL.

Examiner

PHILIP C. LEE

Art Unit

2448

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-11,13-17,19-21 and 23-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-11,13-17,19-21 and 23-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date 6/7/10
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. This action is responsive to the amendment filed on June 28, 2010.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/28/10 has been entered.
3. Claims 1, 3-11, 13-17, 19-21 and 23-35 are presented for examination and claims 2, 12, 18, 22 and 36 are canceled.
4. The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

Objection

5. Claims 1, 3-11, 13-17, 19-21 and 23-35 are objected to because of the following informalities or grammar errors: As per claim 1 (lines 4, 6 and 15-16), "each address-domain pair", "an address-domain pair" should be "each of the plurality of address-domain pairs", "the address-domain pair", respectively; Line 9, "the domain" should be "the associated domain". Claim 35 also have similar informalities or grammar errors.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 3-11, 13-17, 19-21 and 23-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention

a. The following terms lack proper antecedent basis:

i. the whitelist – claims 1 and 35.

b. Claim language in the following claims is not clearly understood:

ii. As per claim 1, lines 9, 18 and 26-27, it is unclear if “the message” refers to “a previously received message” in line 5.

iii. As per claim 1, line 12, it is unclear if “an IP address” refers to “an IP address” in line 5.

iv. As per claim 35, lines 9, 11, 15 and 22, it is unclear if “the message” refers to “a previously received message” in line 6.

v. As per claim 1, line 11, it is unclear if “an IP address” refers to “an IP address” in line 5.

Claim Rejections - 35 USC § 101

8. Claim 35 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 35 is a computer-readable storage medium claim. The broadest reasonable interpretation of such a claim covers forms of non-transitory media and transitory signals. Signals are not patentable subject matter. Therefore the claim is rejected as covering non-statutory subject matter. Please amend the claim to recite "a non-transitory computer-readable storage medium...". This will clarify the claim is only directed to patentable subject matter.

Claim Rejections - 35 USC § 103

9. Claims 1, 3, 5, 7-10, 13-17, 19, 28, 30-31 and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsch, US Patent 7,206,814 (hereinafter Kirsch) in view of Wang, US Patent Application Publication 2008/0040439 (hereinafter Wang).

10. As per claims 1 and 35, Kirsch teaches the invention substantially as claimed, comprising: maintaining a reputation table in memory (i.e., list of information regarding the actual senders), the reputation table including information regarding a plurality of address-domain pairs(i.e., actual senders are identified by IP and domain pair), each address-domain pair indicating an IP address and an associated domain of

a previously received message (col. 3, lines 7-13; col. 9, lines 2—31; col. 11, lines 24-30; col. 16, lines 27-32), the information regarding each address-domain pair including one or more classification variables (i.e., scores are ratio of classification variables) (col. 11, lines 24-60);

executing instructions stored in a computer readable storage medium to: determine the domain from which the message is purported to be sent (col. 4, line 66-col. 5, line 12), identify that the determined domain appears on a whitelist (col. 4, line 66-col. 5, line 12),

determine an IP address corresponding to a device from which the message was relayed (col. 7, lines 35-37),

associate the domain with the IP address to create an address-domain pair (col. 6, lines 10-40);

classify the message based on a score assigned to the address-domain pair, the score comprising a ratio (col. 12, lines 12-13) of a first classification variable of the address-domain pair to a second classification variable of the address-domain pair as indicated by the reputation table (col. 11, lines 24-60), and

override the whitelist based on the score assigned to the address-domain pair, wherein the message is classified as spam even though the domain of the message appears on the whitelist (col. 19, lines 7-14).

11. Kirsch does not teach variable decaying with time. Wang teaches the one or more classification variables decaying with time ([0046], [0047] and claims 5 and 22).

12. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch and Wang because Wang's teaching of variables decaying with time would increase the security of their system by allowing their system to determine whether to accept or reject messages on the basis of the classification of the sender.

13. As per claim 3, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach classifying the message is further based on classification variables associated with another address-domain pair (i.e., classification based on range of IP combined with certain domain name), the other address- domain pair having a related IP address or related domain (col. 2, lines 58-64; col. 6, line 59-col. 7, line 4).

14. As per claim 5, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach wherein a plurality of IP addresses is associated with the domain (col. 2, lines 63-64).

15. As per claim 7, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teaches wherein the IP address is a boundary IP address (col. 7, line 30).

16. As per claim 8, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach wherein the IP address is preconfigured (col. 4, line 66-col. 5, line 6).

17. As per claim 9, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Although Kirsch teaches wherein the IP address is preconfigured (col. 4, line 66-col. 5, line 6), however, Kirsch and Wang do not specifically teaches including wherein the IP address is preconfigured to be one hop from a gateway IP address. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include IP address preconfigured to be one hop or any hop from a gateway IP address because by doing so it would increase the user control by allowing configuration according to the user's design choice.

18. As per claim 10, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach wherein the IP address is learned (col. 1, lines 24-25) (learned from the header).

19. As per claim 13, Kirsch and Wang teach the invention substantially as claimed in claim 10 above. Kirsch further teach wherein the IP address is a boundary IP address (col. 7, line 30) and wherein the boundary IP address is learned by detecting a pattern in a certain number of previously received messages (col. 7, lines 20-45).

20. As per claim 14, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach wherein determining the domain from which the message is purported to be sent includes identifying the stated sender domain associated with the message (col. 7, lines 55-64).

21. As per claim 15, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teaches wherein the domain is a domain associated with a boundary IP address (col. 7, lines 30, 49-54).

22. As per claim 16, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach wherein classifying the message is further based on consulting a white list (col. 8, lines 31-38).

23. As per claim 17, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach wherein classifying the message is further based on previous classifications made to the address-domain pair (col. 12, lines 1-30).

24. As per claim 19, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach determining a spam ratio (col. 12, lines 12-14).

25. As per claim 28, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teaches providing the classification of the message based on the address-domain pair as input to another classifier (col. 8, lines 17-62).

26. As per claim 30, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach wherein classifying the message is further based on a score assigned to the IP address (col. 12, lines 24-30).

27. As per claim 31, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach wherein classifying the message is further based on a score assigned to the domain (col. 12, lines 24-30).

28. As per claim 33, Kirsch and Wang teach the invention substantially as claimed in claim 30 above. Kirsch further teach comprising determining a score assigned to the IP address (Kirsch, col. 12, lines 1-30).

29. As per claim 34, Kirsch and Wang teach the invention substantially as claimed in claim 31 above. Kirsch further teach comprising determining a score assigned to the domain (Kirsch, col. 12, lines 1-30).

30. Claims 4 and 32 rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsch and Wang as applied to claim 1 above, and further in view of Lalonde et al, US Patent Application Publication 2004/0068542 (hereinafter Lalonde).

31. As per claim 4, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not the other message being associated with IP addresses other than the IP address of the message. Lalonde teaches wherein classifying the message is further based on classifications of other messages associated with the domain of the message (i.e., checking the blacklist) ([0042]), the other message further being associated with IP addresses other than the IP address of the message ([0039]).

32. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Lalonde because Lalonde's teaching of further classification of the message would increase the security of Kirsch's and Wang's systems by further indentifying associated information regarding a message in order to determine and to filter unwanted message.

33. As per claim 32, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Although Kirsch teaches classifying the message based on a score assigned to the domain (col. 12, lines 24-30), however, Kirsch and Wang do not determining the message was forged. Lalonde teaches wherein classifying includes classifying the message based on the domain and determining that the message was forged ([0038]).

34. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Lalonde because Lalonde's teaching of further classification of the message would increase the security of Kirsch's and Wang's systems by further indentifying associated information regarding a message in order to determine and to filter unwanted message.

35. Claims 6, 11, 20-21 and 23-27 rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsch and Wang as applied to claim 1 above, and further in view of Murray et al, U.S. Patent 7,366761 (hereinafter Murray).

36. As per claim 6, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not teach the IP address is associated with a plurality of domains. Murray teaches wherein the IP address is associated with plurality of domains (col. 7, line 65- col. 8, line 4).

37. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Lalonde, Kirsch, Wang and Murray because Murray's teaching of the IP address is associated with plurality of domains would increase the effectiveness of their system by allowing identification of the IP address is associated with the domain in order to filter unwanted e-mails based on sender information.

38. As per claim 11, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not teach including the IP address is adaptively determined. Murray teaches wherein the IP address is adaptively determined (col.3, lines 25-27).

39. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of the IP address is adaptively determined would increase the effectiveness of their system by allowing determination of the IP address in order to filter unwanted e-mails based on sender information.

40. As per claim 20, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not specifically teach a spam rate. Murray teaches determining a spam rate (col. 10, lines 53-65).

41. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of determining a spam rate would increase the effectiveness of their system by allowing identification of unwanted e-mails based on spam rate.

42. As per claim 21, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not specifically teach a spam rate. Murray teaches determining an estimated instantaneous spam rate (col. 10, lines 53-65; col. 11, lines 24-27).

43. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of determining a spam rate would increase the effectiveness of their system by allowing identification of unwanted e-mails based on spam rate.

44. As per claim 23, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not teach giving a classification weight relative to another classification. Murray teaches wherein classifying the message includes giving a classification variable greater weight relative to another classification variable (col. 9, lines 20-31).

45. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of giving a classification greater weight relative to another classification would increase the effectiveness of their system by allowing unwanted e-mails to be accurately identified based on sender's reputation.

46. As per claim 24, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not teach giving a classification weight relative to a computer classification. Murray teaches wherein classifying the message includes giving a classification variable associated with user greater weight relative to a classification variable associated with computer classification (col. 8, lines 44-50; col. 9, lines 20-31).

47. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of giving a classification greater weight relative to a computer classification would increase the effectiveness of their system by allowing unwanted e-mails to be accurately identified based on complied sender's reputation.

48. As per claim 25, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not teach giving weight of a good classification. Murray teaches wherein classifying the message includes giving an indeterminate classification a fraction of the weight of a good classification (col. 9, lines 20-31).

49. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of giving weight to a good classification would increase the effectiveness of their system by allowing unwanted e-mails to be accurately identified based on sender's good reputation.

50. As per claims 26 and 27, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Although Kirsch teaches the reputation table (col. 3, lines 7-13; col. 9, lines 20-31), however, Kirsch and Wang do not specifically teach the table indexed by IP address and

domain. Murray teaches wherein the table is indexed by IP address and domain wherein each cell includes information about previous classifications (col. 9, lines 32-40).

51. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of consulting a table of IP address and domain would increase the effectiveness of their system by allowing unwanted e-mails to be accurately identified based on sender's information.

52. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsch and Wang as applied to claim 1 above, and further in view of Appleman, U.S. Patent Application Publication 2005/0076240 (hereinafter Appleman).

53. As per claim 29, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not specifically teach a Bayesian classifier. Appleman teach wherein the other classifier is a Bayesian classifier ([0058]).

54. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Appleman because Appleman's teaching of providing the IP address and domain classification as input to a Bayesian classifier would increase the effectiveness of their system by allowing unwanted e-mails to be accurately identified based on sender's information.

55. Applicant's arguments filed on 06/28/10 with respect to claims 1, 3-11, 13-17, 19-21 and 23-35 have been considered but they are not persuasive.

56. In the remarks, applicant argued that:

(1) The prior arts of record fail to teach overriding the whitelist based on the score assigned to the address-domain pair, wherein the message is classified as spam even though the domain of the message appears on the whitelist.

(2) Each reference-Lalonde, Kirsch and Wang-already teaches “filtering unwanted e-mails based on sender information.” As such, there is no reason for a person having ordinary skill in the art to combine yet another reference (i.e., Murray) to achieve a feature that is already present in the combination of Lalonde, Kirsch, and Wang.

57. In response to point (1), Kirsch teaches message in a whitelist is normally passed to the recipient (col. 5, lines 13-16). Kirsch further teach message of sender in the whitelist can be changed to spam based on the calculated reputation of the sender from IP address and domain pair(col. 19, lines 7-14). This means changing to spam counteracts the normal operation of the whitelist (i.e., overriding the whitelist based on score assigned to the address-domain pair)

58. In response to point (2), Murray was relied upon for the teaching of weighted variable in a classification system. Since Lalonde, Kirsch and Wang also teach classification system, it

would be obvious for one skill in the art to apply a know technique of weighted variable to improve the known classification system of Lalonde, Kirsch and Wang in the same way. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

59. A shortened statutory period for reply to this Office action is set to expire THREE MONTHS from the mailing date of this action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip C Lee whose telephone number is (571)272-3967. The examiner can normally be reached on 8 AM TO 5:30 PM Monday to Thursday and every other Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Firmin Backer can be reached on (571) 272-6703. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Philip C Lee/

Primary Examiner, Art Unit 2448